



Review

Prospects of green financing in democratic societies

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Abstract: Financing ecological and other grand global challenges is faced with intertwined issues at both the institutional side and the public side as elements of the tragedy of the quintuple horizons. These horizons are approached from a systemic perspective, with attention on the key players involved. Starting with (system) banks, their conservative attitude is explained in terms of the iron cage theory. Next, green challenges are pictured as ‘very wicked’ problems, varying in moral intensity. The conflicting roles of the public as citizens and as consumers are described in terms of Kohlberg’s theory of cognitive moral development. Responsibilities for future generations are clarified by distinguishing the responsibility as accountability and the responsibility as virtue. Assignments for a green future are explored from the perspective of green financing with a focus on what should be expected from the public at large in multiparty democratic societies, keeping in mind that other societies are characterized by diverting economic and political dynamics, and hence, other modes of operating¹.

Key words: tragedy of the quintuple horizons; wicked problems; transgenerational solidarity; citizen-consumer role conflict; third-order change; small wins; moral and ethical expertise; climate change; moral development; moral intensity; ecological literacy; conflicting logics; benevolent dictatorship

JEL Codes: A12, A13, A14, D11, D64, D72, D81, D91, E02, E 58, E60, E71, J11

¹ See, for instance, for China: Macaire & Naef (2022) and Liu, Wang, Zhang & Zhang (2019).

1. Introduction and overview

Taken objectively, global greening measures are necessary assignments of mankind in order to survive. Attempts to attack global warming, dealing with other climate issues, and promoting circular economy include worldwide conferences and various international contracts (including the Paris Agreement), guided and accompanied by countless publications. Sustainable finance refers to the process of taking environmental, social, and government considerations into account when making financing decisions, with the aim of fostering long-term investments in sustainable economic activities (Schmieder et al, 2022). In particular, green finance can be defined as the policies and investments of financial institutions supporting a green economy (Lindenberg, 2014).

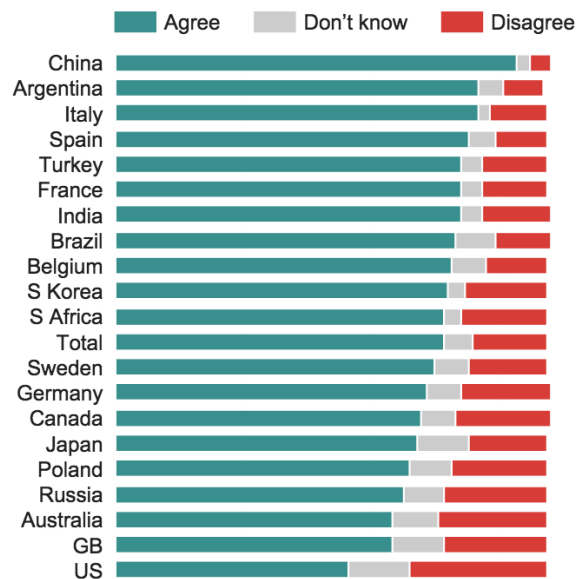


Figure 1. Climate change and human activity.

However, in general, the public mainly seems to consist of laggards displaying an awkward relation to the Great Challenges. Specifically, climate change deniers and anti-globalists at times pump around eerie nonsense in their social media bubbles to disqualify those trying to realize a bright future (though not always for a noble cause²). These Great Challenges, often interrelated, include dealing with climate change (global warming), poverty, illness and health, food, waste, water, energy, wildlife, biodiversity, and large-scale migration, all with an ‘ultra-wicked’ character and no obvious, easy, clear-cut solutions for a world populated by over 10 billion people in the near future. *Après nous le déluge?* (Bennink, 2020; Brundtland, 1989; Gates, 2021; Gore, 2006; Meadows, et al., 1972; Meadows, et al., 1992; Novotny, 2000; Soyka, 2013; Van Lohuizen, 2021; World Bank, 2010).

Approximately 16,000 people in twenty countries (New York Times, December, 11th, 2015, figure 1 taken from Global Trends 2014, Report, Ipsos MOR) answered the question “to which degree

² Some investors, notably starters, have founded sustainable and biotech companies, though not out of idealism but because of their assumed potency for short-term exchange rate gains.

they agree/disagree with the claim that the climate change we are currently seeing is largely the result of human activity”, showing remarkable differences between countries that may reflect differences in readiness to support resolutions for the climate crisis.

The question addressed here is why active consent with attempts to deal with these Great Challenges are prone to deference to a distant future and even doomed to fail when necessary effective action is blocked or remains absent. The line of thought develops as follows. In (2), the point of departure is the notion of the tragedy of the quintuple horizons, as viewed from a systems approach. Next, in (3), elements of the institutional dimension are highlighted, notably the – by nature – conservative position of the banking sector, especially concerning green issues. In (4), conditions for successful change are examined, especially concerning so-called ‘wicked’ problems. Then, in (5), the fivefold horizons are discussed, including the way they reinforce each other in counteracting green prospects³. The position is taken that economics as a discipline is much more than complex applied arithmetic based on calculation models regarding making and spending money, but rather is a social science with ecological, sociological, psychological, political, anthropological, and moral elements concerning making and spending money. In particular, (in 6) the focus is on the conflict-laden mindset of the public in general as both citizens and consumers in (not so) democratic societies, with an emphasis on loss aversion and de-classing. From this perspective, concepts of intra- and transgenerational solidarity and responsibility are examined for their usefulness. Winding up, section (7) describes suggestions given for improving the prospects of green finance. To start with, the tragedy of the quintuple horizons is briefly explained and illustrated, with a case serving as a distant mirror for the vicissitudes of green finance.

2. The tragedy of the quintuple horizons and a distant mirror

In his often-quoted speech *Breaking the Tragedy of the Horizon – Climate Change and Financial Stability*, Carney (2015) made an implicit distinction of several horizons that fail to coincide, including the following: the business horizon, the political horizon, and the horizon of climate change deadlines. Carney also sketches the consequences of climate change. As emphasized by insurers, climate change may affect financial stability because of physical risks (storms, floods, drought), liability risk (compensation), and transition risks (including stranded assets), not only regarding a lower-carbon economy, but also concerning the other Great Challenges previously mentioned.

Inspired by Carney’s speech, the tragedy of quintuple horizons is conceptualized.

These five horizons include the consumers horizon, the business horizon, the political horizon, the technological horizon, and the global climate horizon. These five horizons do not coincide, thus constituting a significant hardship in dealing with Great Challenges, including combatting climate change. As a distant mirror showing how these five horizons can coincide in a microcosmos, we take a look at a medieval case.

The petrification of a medieval town

In July of 1334, a severe fire destroyed almost two thirds of the medieval town of Deventer (situated in the Eastern part of the Netherlands). It was thought that this fire would have caused so

³ See for the concept of *prospect theory*, Kahneman & Tversky, 1979 and Kahneman, 2011, chapter 26.

much damage because of the thatched roofs of many of the buildings. To safeguard future fires, the municipality of Deventer decided that roofs should no longer be made of straw, reed, or wooden shingles, and that houses needed to be built of bricks, slate deck tiles, and fired floor tiles, rather than be made of wood and clay.

Due to the big chance of reoccurrence, there was a commonly felt sense of urgency. During the following year (up to 1425), a larger part of the city was rebuilt with permitted roofs made possible by generously provided, though strictly allowed, subsidies paid through wealth taxes and (voluntary or forced) loans granted by the wealthier habitants of Deventer to buy rooftiles, and additionally bricks later on. Of course, there was some opposition, notably of the thatchers' guild, but they were compensated and offered opportunities for professional reconversion. Moreover, numerous regulations and prescriptions were issued concerning how to (re)construct houses and other buildings, how to warn fellow citizens, what (not) to do in case of fire, possession, use, and maintenance of fire buckets, as well as the introduction of monitoring and if necessary, penalizing the use of flammable material, inappropriate use of candles, fireplaces, and ovens, and the storage of combustible material such as hemp and hay. In addition, there were complicated regulations for the compensation of burnt buildings. Nevertheless, the execution of measures suffered from a lack of progress, caused by a reluctance of forbidding thatched roofs, lack of rooftiles, poverty of less fortunate citizens either not able to or not wanting to pay for the very expensive rooftiles, high levels of inflation, periods of plague, and perhaps complacency due the partial success.

The re-use of building materials was remarked as an early version of circular economy. Furthermore, the wealthier citizens were smart enough to take profit from subsidies than the poor could, invested their capital in real estate, organized (re)building, and accumulated their capital through rental of houses. The rich preferred slate roofs for their own houses, though more expensive in purchase amount, construction, and maintenance. Winding up, the road to petrification paved by prosperity, subsidies, and investments of savings was successful though not benefitting every citizen to the same degree, as Table 1 shows (adapted from De Meyer & Van den Elzen, 1981, *passim*, 50). In particular, the Table 1 shows that the richer areas of the town (notably the Polstraat, Assenstraat and the Bisschopstraat) received more subsidized building materials (bricks and rooftiles) than the other areas did.⁴

Table 1. Bricks and rooftiles across areas.

| Bricks | 50% | 75% | 90% | Rooftiles | 50% | 75% | 90% |
|----------------|-----|------|------|-----------|-----|-----|-----|
| Polstraat | 3.7 | 14.6 | 23 | | 2.9 | 4.8 | 6.4 |
| Waterstraat | 1 | 8 | 18.5 | | 1.3 | 3.7 | 7.5 |
| Noordenberg | 1.8 | 7.3 | 14 | | 2.8 | 4.4 | 6.6 |
| Engestraat | 5.3 | 11.7 | 23 | | 2.7 | 4.5 | 7.2 |
| Bisschopstraat | 4 | 12.3 | >23 | | 2.9 | 5 | 7 |
| Overstraat | 2.9 | 7.4 | 16 | | 2.2 | 4.1 | 6 |
| Overstraat | 2.7 | 8.5 | 8 | | 3 | 5.2 | 7.8 |
| Assenstraat | 2.7 | 11 | >23 | | 2.4 | 4.7 | 6.8 |

⁴ Today, this kind of differential benefits may be reflected in, for instance, subsidized electric cars.

The quote of philosopher and political activist Thomas Paine (1776) ‘I offer nothing more than simple facts, plain arguments, and common sense’ (see also, Paine, 2008) may be true in the petrification case and even in Eighteenth century USA; however, for green financing, this statement may be too simple. In modern times, the five horizons do not coincide, as will be explained below. These horizons are interrelated in a complex way, with both institutional processes and individual processes entangled dynamically. A systemic approach focusses on the interference of several types of patterns: societal patterns, branch patterns, organizational patterns, and individual patterns. The interplay of these patterns can be understood by adopting the psychodynamic system perspective in which concepts taken from psychoanalytic theory and systemic relation and family therapy are applied to organizations. This helps to get an idea of complex societal and organizational problems concerning, in this case, the prospects of green financing. (Campbell, et al., 1994/2018; Fraher, 2004; Jaques, 1953; Krantz, 2001; McCaughan & Palmer, 1994; Schaveling & Bryan, 2017; Vansina & Vansina-Cobbaert, 2008).

Concerning individuals, each individual, either as a consumer or as a citizen, brings his or her own personality into the game, including sensitivities, ambitions, motives, interests, visions, beliefs, fears, and more or less unconscious patterns of thinking, feeling, and doing. The business horizon has its own logics, both on the organizational and the branch level, whereas the political horizon of society at large has its own dynamics, and global warming has dynamics not really known yet.

Before these five horizons are discussed in more or less detail, a focus is laid on the conservative nature of many banks and institutional investors.

3. The conservative nature of banks and institutional investors

By their very nature, banks and institutional investors are conservative⁵. Concerning banks, Jeucken (2002) described four types or perhaps phases of banking and sustainable development, showing that banks are beginning to take notice of and address their own environmental performance (see also: Bouman, et al., 2017).

1. Defensive banking tries to stop every governmental measure for a better environment and sustainable development because these measures might stop either direct or indirect self-interest of banks, as environmental care only costs money. Though not so many banks seem to be in this phase, indifference may be a commonly shared attitude.
2. Banks involved in *preventive* banking acknowledge that cost reduction is possible by taking the environment and people into account. Preventive banking seems inevitable because governments and interest groups impose preconditions upon activities of banks. This phase is primarily about compliance, for instance by adding standard control questions concerning environmental impact in case of credit risk assessment.
3. *Offensive* banking means anticipating sustainable business with new market opportunities for specific products and services for new markets. Banks dare to show that they are committed to

⁵ Please note the term ‘nature’, because this plays a tricky role in many discussion (as in ‘the nature man’), an issue to be picked up further on (Zwart, 2003, 63).

sustainable development in an innovative way, though primarily aiming at facework and getting a green image.

4. *Sustainable* banking implies self-imposed conditions concerning the demands of sustainable entrepreneurship (such as lending and investments) and values and stimulates sustainability of the customer and other parties in societies, even beyond actual green legislation and the actual state of financial markets.

Traditional banks have as a rule of thumb that they invest for a period of at most five years, and make an annual profit of about 6–8%, whereas impact investment of sustainable banks use a period of time of at least ten years and tend to be satisfied with an annual profit of 2% (or preferably more, of course).

For the greater part, phase four banks still are niche-players (such as ASN Bank and Triodos Bank in the Netherlands) with hardly any international competition, while constituting about 2% of capital markets (www.banken.nl, April, 28th, 2021, showing the ranks of these two banks among other sustainable and not so sustainable popular brands in the Netherlands). Yet, green and ethical investment can have a pioneering role and an exemplary function of that particular bank for other banks and the public in general, more in particular with the critical consumer. Green investment can eventually lead to a competitive advantage for both the financial institution and the businesses they are financing.

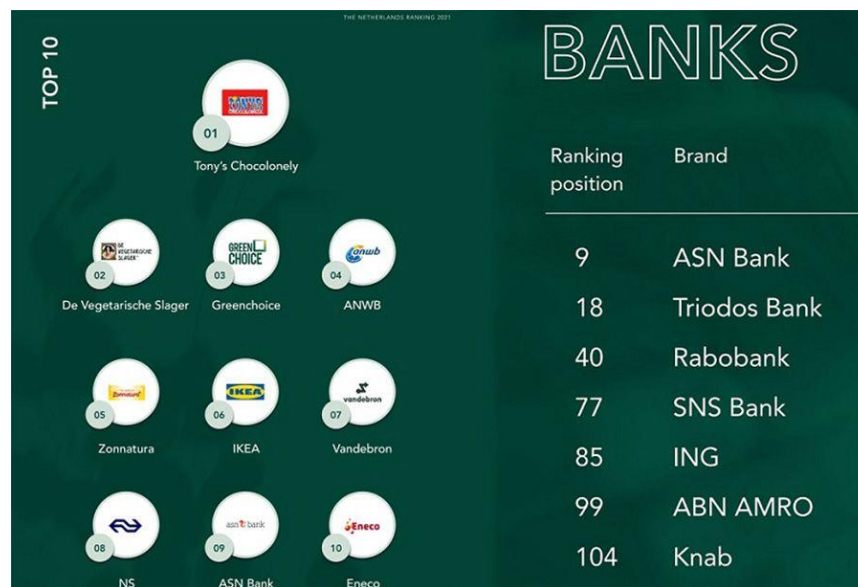


Figure 2. Dutch banks in green ranking.

However, most banks generally exhibit a conservation position, making them reluctant to generous solidarity and altruism. Partly, this is due to persistent data gaps, the lack of valid, comprehensive, reliable, detailed, and standardized information about climate issues and inherent risks (including, for instance, emission pathways and the carbon footprint), in order to, for instance, validate climate risk pricing. Additionally, there is a lack of disclosure of granular information on the firm-level about the ‘greenness’ of products and production processes. Without this information, there are few possibilities for detecting ‘greenwashing’, alongside a lack of harmonized standards and statistical methodology (Schmieder et al, 2022).

In a way, banks need to be conservative, because of conflicting logics, as can be explained by looking at the institutional field they operate within, the type of legitimacy, and the main type of responsibility, as listed in Table 2 (Bennink, 2012a; 2012b; Suchman, 1995).

Table 2. institutional field, legitimacy and responsibility.

| <i>Institutional field</i> | <i>type of legitimacy (\approx doxa)⁶</i> | <i>main type of responsibility</i> |
|----------------------------|---|------------------------------------|
| <i>for-profit</i> | making profit | economic |
| <i>governmental</i> | exerting authority | legal |
| <i>not-for-profit</i> | realizing values | moral |
| <i>nongovernmental</i> | generous solidarity and altruism | discretionary |

Not surprisingly, this scheme indicates that banks and institutional investors are part of the for-profit field, deriving their legitimacy from making a profit based on the economic responsibility for their shareholders. It can be argued that green financing demands a different type of logic, legitimacy, and accompanying responsibilities. Should banks and institutional investors adopt the mores of NGO's', become part of civil society – “the public space between individual citizens and the state in which their activities occur collectively and in an organized forms” (Stewart, 1997) – and base their actions on generous solidarity to realize cosmopolitan and humanitarian values and principles from a broader (ideological) social vision to compensate either market or state failure (concerning human rights, environmental and climate issues, food and water issues, animal rights) and have discretionary responsibilities? Discretionary (volitional and supererogatory) responsibilities are part of the discretionary space – an extended capacity for steering, regulating, and improvising concerning moral decisions based on both individual and collective decisions to pursuing philanthropic goals beyond complying with actant laws and regulations (see also: Ansari, et al., 2013; Reay & Hinings, 2009).

These formulations suggest that banks and institutional investors leave the initial institutional domain and move toward another domain, thereby putting their license to operate at risk in both domains. Instead, most banks persist to remain in their present domain, instead of becoming or at least behaving like an NGO. Missed opportunities could be overcome through better cooperation between a variety of stakeholders (including national authorities, governmental departments, international financial institutions, corporations), with central banks in a bridging function, though this is far from realized (Schmieder et al., 2022).

The conservative position of many banks and institutional investors can be better understood by looking at the mechanisms of the iron-cage theory of DiMaggio and Powell (1983). They described isomorphic processes in institutions accounting for the startling homogeneity of organizational forms and practices (and perhaps also in a broader sense, in national cultures, popular music, car design, clothing, architecture) explained as the outcome of three isomorphic mechanisms:

- coercive*: complying with governmental rules;
- normative*: complying with rules of professionalism/for good business;

⁶ Doxa is a tacitly shared belief in and the recognized legitimacy of the obviousness of the field and the game that is played in it (schools educate, hospitals cure, courts administer justice, police maintain public order and safety, and tax authorities levy taxes fairly) (Bourdieu & Wacquant, 1992, 98, 116, 117).

- *mimetic*: mimic successful organizations to reduce uncertainty.

The iron cage theory helps to explain why processes of petrification developed in many medieval towns along about the same lines of coercion, norming, and mimesis. Why is it so hard to realize present green prospects? As is explained in the next section, green challenges and financing them are in fact a nice example of a ‘wicked’ problem, though this not easy to solve, alongside the five horizons all playing their role.

4. Green challenges as wicked problems asking for third-order change

Green and other great challenges are wicked problems and ask for a clear account of conditions for solving them. We start with considering the nature of ‘wicked’ problems, followed by a brief discussion of conditions for change. The term wicked problem, coined by Rittel and Webber (1973) was further developed in many directions (see, for instance, Alford & Head, 2017; Batie, 2008; Head & Alford, 2015; Kreuter, et al., 2004; McMillan & Overall, 2016). An *open* and often *complex*, and therefore, ‘*wicked*’ problem can be described in terms of ten characteristics:

1. Badly delineated and badly defined, with no definite definition of the problem (there is always the possibility to look at it otherwise);
2. There is no stopping-rule in defining the problem, except on case of lack of knowledge, time, money, and patience;
3. Problem definition and solutions depend on values and norms; from the perspective of alternative values and norms, the problem will look different;
4. Because of arbitrary delineation, every problem is part of a larger problem, can thus be stretched further, and is therefore unique;
5. The way the problem is explained determines the direction of solutions, whereas a different explanation offers other solutions;
6. Therefore, multiple solutions are possible;
7. Solutions are not true or false, but effective or non-effective, that is, they work, do not work, or work modestly or only in the long run, alone or in combination with other solutions;
8. There is no immediate nor an ultimate test for both the correctness and the effectiveness of solutions;
9. Every solution is a ‘one shot solution’ without a ‘point of return’. You will not get the opportunity to do it otherwise, because the situation has changed because of the insufficient of even failed solutions;
10. Problem solvers have no right for excuses for failure and are responsible for the consequences of their choices (especially when run into trouble).⁷

Put briefly, ‘wicked’ problems are difficult to delineate from other problems (Great Challenges often are intertwined) and are badly defined because they depend on interpretation and sense-making, and hence are difficult to analyze, let alone that clear and unambiguous solutions can be found and implemented. If it were that easy, problems would have been solved a long time ago!

However, for our purpose, this general description of wicked problems lacks proper differentiation. To avoid the impression that ‘wicked’ problems are unsolvable in an apocalyptic way,

⁷ This issue mentioned by Rittel and Webber (1973, 167) can be subject for discussion, as problem solvers can propose excellent solutions that are carried out poorly by others, relieving them from responsibility for ill consequences.

Alford and Head (2017) distinguish several types of ‘wicked’ problems on a continuum ranging from extremely ‘wicked’ to clear-cut open problems. They also indicate which form of cooperation with those involved in problems and solutions is desirable and suggest distinguishing multiple dimensions, that may not all be equally ‘wicked’, possibly allowing ‘small wins’ (Weick, 1984).

Alford and Head (2017) proposed two structuring dimensions: arranging the problem and the actors involved into a matrix, with the increasing degree of problem complexity on the vertical axis (for instance, the intertwining with other problems) and the increasing complexity on the horizontal axis because of the number of actors involved.

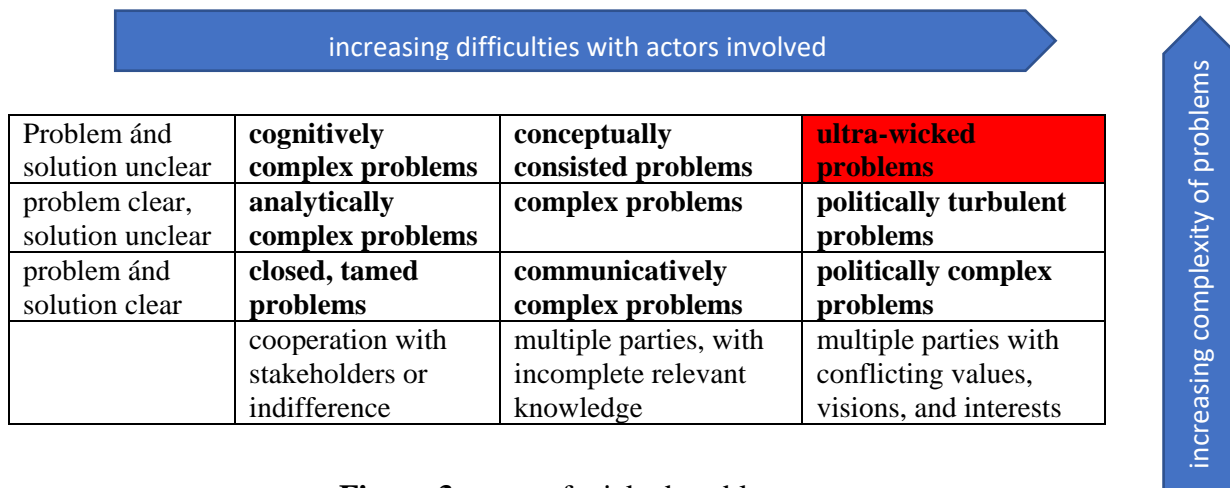


Figure 3. types of wicked problems.

To picture intermediate forms, Alford and Head constructed a matrix consisting of a continuum of nine cells (instead of the expected four) for convenience and overview.

Based on the scheme in figure 3, green issues (as such and in concert with many other Great Challenges) can be put in the ‘ultra-wicked problems’ cell alongside many actors with diverting visions and interests and unequal power involved, and with fragmented information and knowledge (sometimes disputed) that cannot be easily valued, shared, and combined. More fundamentally, issues are enacted and framed concerning the way pluralistic democratic societies should function, including the distribution of responsibilities between government, citizens, and societal institutions (for instance, education). Because of the spaghetti form of green issues, the suggestion can be made to compartmentalize it into smaller assignments and search for the proper scale. Specific parts of the entire issue can be demarcated as relatively closed issues of a technological kind as small wins, such as helping farmers in India by granting them microcredits.

On a more practical level, green financing meets other issues, making dealing with global warming issues even more ‘wicked’. Green financing? In what projects should one invest? Is it real contributing to sustainability or are investors trapped in greenwashing (see, for instance, Lukinović & Jovanović (2019)? Since 2021, in Europe, the Sustainable Finance Disclosure Regulation (SFDR) was put into action to realize three core objectives:

1. reorient capital flows towards a more sustainable economy
2. mainstream sustainability into risk management
3. foster transparency and long-termism.

Green projects must have a positive impact on people and the environment and does not induce significant damage. When investments comply with these criteria, they are allowed to be called ‘dark green’ and fall into SFDR category 9. Not meeting this criteria results in a lower ranking SFDR category of either 8 or 8+ (‘light green’), or even an SFDR category of 6 (‘gray’) when nothing sustainable is intended, apart from, for instance, not investing in cluster ammunition. Figure 4 shows how organizations are functioning in terms of category 8 and 9.

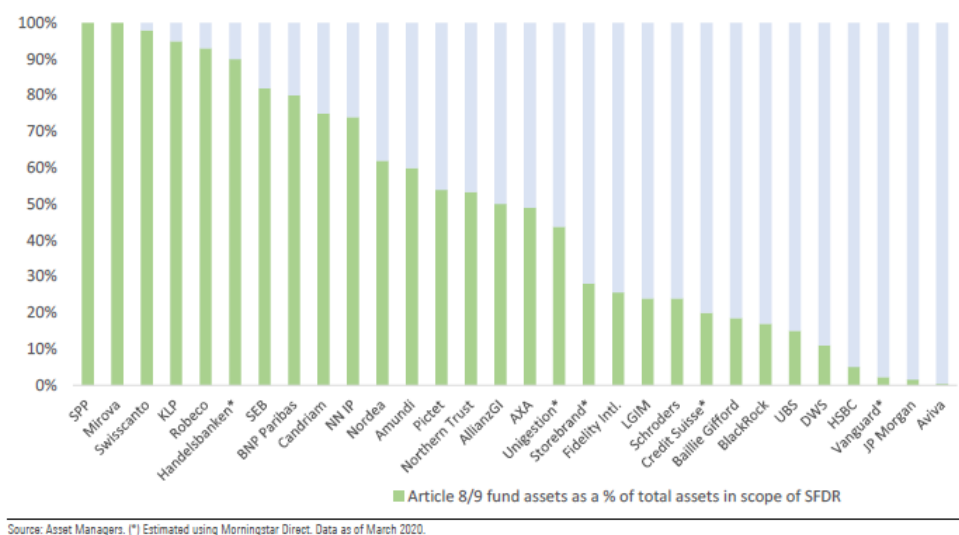


Figure 4. Shades of green investing.

In practice, many green funds label themselves as ‘dark green’, though without clear criteria about what ‘positive impact’ and ‘no significant damage’ actually mean. Investors have to look out for themselves how sustainable (et cetera) projects really are, probably experiencing that relevant and valid information is not always easily available. Close observation may then reveal that category 9 is not really a category 9 impact investing (for instance, when only 10–20% of projects turn out to be not really contributing to counter global warming). An alternative to SFDR could be a Benefit Corporation (BCORP). Going through their assessment asks for at least 80 points out of 200 to get certified (as the earlier mentioned Triodos Bank does, and Pymwymic as well) (www.bcorporation.net).

Put briefly, a problem tends to be tamed to the degree to which it is knowable, knowledge is accessible and shared, and no fundamental conflicts or great power between the actors involved occur. Many elements of the green great challenge may ask for a more fundamental approach, such as considering the institutional function of banks, notably system banks, that are responsible for the functioning of the economy and even society as whole.

Green finance could be in need of a *third-order* change not easy to accomplish. In fact, four orders of change can be distinguished: zero-order, first-order, second-order, and third-order change, simply described as doing things the same in the same way, doing things better, doing things otherwise, and doing more or less completely different things. Third-order change aims at a fundamental, groundbreaking transformation of an organization, an entire industry, and even society at large. It asks for new ways of organizing, whether or not with other organizations in network connections while

looking at a new identity, new meanings, and multiple value propositions. Existing points of departure are questioned into making a quantum leap, in terms of new products and services, ways of structuring, new business processes, and news of cooperating with new parties (for instance, in case of energy transition) (Bartunek & Moch, 1987). It asks for new mental models of both the world and the business, in fact a paradigm shift (Kuhn, 1970; Nicoll, 1984) implies a long-term change of the iron cage banks and other institutional domains. In case of green financing, third-order change can only happen when governmental rules are adapted (beyond advice, indeed coercive) and when the normative identity of banks has changed from making profit to financing the creation of a greener world, whereas a glimmer of hope can be found in mimetic procedures copied from the banks success in green finance.

Of course, second-order and first-order change are both necessary and possible in case of less groundbreaking changes, depending on the degree of wickedness' of the issue. Actant financial policies can be improved, refined, rearranged, and carried out with other parties in order to things better or in a different fashion.

For successful changes of any order, five conditions need to be present, the absence of which leads to failure (Knoster, 1991):

- ✓ a shared vision, if not: confusion
- ✓ shared interests, if not: resistance
- ✓ a realistic plan, if not: chaos
- ✓ means (including time, money, power), if not: frustration
- ✓ competencies, if not: fear.

In the case of the petrification of Deventer, these conditions were more or less met. There was a shared vision (abandon thatched roofs to prevent fires), shared interests (a commonly shared sense of urgency, though there was some understandable opposition of the thatchers), a plan (offer possibilities for subsidies accompanied by detailed rules and regulations), means (more for the wealthier citizens than for the poor), and competencies (expertise in building brick houses with rooftiles).

In green financing, these conditions for change are more problematic. Of course, there is a general view on making the world better and preparing for a viable future. As long as this *vision* has the quality of BHAG's (big hairy audacious goals), there is nothing wrong. When it comes down to concrete goals, opinions on what, how, by whom, and under what conditions may diverge. In that case, conflicts of *interests* may occur, both between people and within people. Not everyone will experience the same feeling of urgency, and individuals may more or less deeply feel the tension between being both a responsible citizen and a greedy consumer, as a source of resistance. When ideals are properly put into action based on a realistic *plan*, there is a smaller chance of chaos. Putting plans into action points at another fail factor and the often-tedious process of organizations working together, especially when they are from different institutional domains. Even when there is some accordance concerning visions and interests, fruitful cooperation may turn out to be an underestimated issue because of diverging logics. On at least seven dimensions, a fit between executing organizations needs to be present:

- *strategic* fit of shared vision, common or complementary goals, interests, and needs (supplying deficiencies) concerning added value; non-conflicting compatibility of long-term strategy and agreed-upon business models within and between organizations;
- *urgency* and *tempo* fit of cooperating partners and equal priorities for cooperating;

- *organizational* fit of feasibility of cooperation in terms of business processes, organizational structure, routines and procedures, management styles, decision-making procedures;
- *cultural* fit of national and organizational cultures: values concerning quality, environment, customers, employees, innovation, technology, costs, dealing with moral issues;
- *operational* fit of managing infrastructure (ICT, interface of systems);
- *competence* fit of cooperating partners, in terms of both complementarity and level;
- *personal* fit of people working respectfully together in harmony based on a personal positive chemistry (Child, et al., 2005; Gray, 1989; Gray & Purdy, 2018).

Another serious fail factor could be the absence of *means*, in terms of enough money to finance green transitions, and the power to persevere in cooperation, related to the seven dimensions of fit issue.

Finally, *competencies* are important. Since green transitions imply expertise, problems may arise when expertise is absent and is contested because different authorities exhibit different views, while other parties produce fake news. We will discuss this issue in more detail when looking at the role of the public in general in democratic societies. Do they have sufficient moral and ethical expertise in order to decide deliberately, well-informed and considered about the future? In the next section, we will focus on the five horizons, notably on the role of the public in general, thus addressing more in particular the issues of *interests* and *competencies*.

5. Five horizons explained

The tragedy of the quintuple horizons includes the consumers horizon, the business horizon, the political horizon, the technological horizon, and the global climate horizon. In democratic societies, the basic decision power concerning the future lies in the hands of those entangled in the dilemma of being both a citizen and a consumer. As consumers, their horizon is determined by meeting daily/weekly needs, guided by marketing specialists in supermarkets and shopping malls. As citizens, they have the obligation to contribute to the common good through making sensible decisions about the near and far future. More attention will be paid to this dilemma, after having given an outline of the other horizons, notably the business, the political, and the technological horizon.

The business horizon

The business horizon has a variable time span, depending on the type of industry, ranging from realizing the planned quarterly or half-yearly figures to implementing a longer-term business strategy. At least two elements limit the possibilities of working on sustainable development goals. The first element is the legal and moral duty to make a profit in favor of stakeholders not fond of suboptimal profit rates. The second element is the risk of stranded resources and stranded assets. Stranded resources are resources not used, whereas stranded assets are losing or have lost value, in general, because of competition, innovation, or economic growth (Bos & Gupta, 2019). Formulated precisely, stranded assets are assets that have suffered from either unanticipated or premature write-down, devaluations, or conversion to liabilities (Caldecott, et al., 2016). Defined by Generation Foundation (2013), a stranded asset is ‘an asset which loses significant economic value well ahead of its anticipated useful, as a result of changes in legislation, regulation, market forces, disruptive innovation, societal norms, or environmental shocks’. Shifts in public opinion because of a change in societal norms may also be a causal factor. Therefore, to speak, stranded assets fall prey to what Schumpeter labeled as

creative destruction (1976)⁸. Resources and assets prone to stranding include financial and legal (for instance, contracts), physical (such as plants, equipment, machinery, infrastructure), and immaterial assets (human capital, knowledge, policy, technology) (see also: Caldecott et al., 2016).

It may be helpful to make further distinctions between both stranded resources and standard assets, as Bos and Gupta (2019) did in terms of spatial, technological, economic, ecological, political, legal/policy, and social aspect, with special attention to potential liabilities (whether or not related to externalities):

- *spatial*, when the place is not an issue and the resource can be exploited, and is stranded when a changing resource landscape affects the access to the asset (depletion or resource); liability issues become at stake, when investors have to pay clean-up costs for emergencies with a specific spatial aspect;
- *technological*, technologies are available and allowed to be used, and become stranded when new technologies make old ones obsolete; liability becomes an issue when companies are held liable for dangerous/obsolete technologies;
- *economic*, when viable projects lead to investments, and are prone to stranding when markets or increased competition affect the asset; liability may occur when companies or governments have to pay for the premature stranding of assets (for instance, decommissioning costs of unemployment or when the state must compensate companies for phase-outs (such as coal power plants));
- *ecological* is an asset when economic gains outweigh ecological impacts and get stranded when ecological arguments outweigh economic arguments of when natural disasters or the impact of climate change affect the asset(s); liability claims may occur when injunctive relief is accompanied by punitive damages or when the investor is left with the costs of adaptation or the need to insure against such risks;
- *politically*, when political choices or the political situation allow exploitation of assets, and doomed to strand when (geo-)politics affect assets (as in the boycott of Russian oil and natural gas); liability claims may occur when governments or organizations are held liable for (short-term) policies;
- *legal* when laws permit use, contracts, leases, and intellectual property rights and patents; when new legal norms retire an asset or make it unusable (such as phasing out nuclear; climate change litigation, laws emerging from the circular economy stranding will occur; liability claims may occur when newer laws or climate litigation impose liability for clean-up after mining and compensation for damages on humans and the environment, or when governments are held accountable for the premature stranding of contracts and/or investments due to policy changes under trade agreements protecting investor rights;

⁸ Schumpeter (1883-1950), who later replaced the term ‘creative destruction’ by the more neutral formulation ‘creative response’ (Diamond, 2006; Perlman 2003, 163), borrowed the idea of creative destruction from economist Sombart (1863–1941), who on his turn was inspired by Nietzsche (Sombart, 1913), notably through his *Also Sprach Zarathustra* who considered creative destruction in line with Hindu philosophy, referring to the circle of creation and destruction (Reinert & Reinert, 2006, 58). Reinert and Reinert also drew some genealogical lines with the philosophy of Herder and Goethe, while pointing at Egyptian, Greek, and Christian notions of dead and resurrection. From this perspective, stranded assets are a common and normal societal and economic phenomenon.

- *social* when consumers or communities want to benefit from resource use, whereas stranding will happen when they successfully object to (for instance) extracting industries; liability issues may emerge when consumers or communities demand compensation for damages (for instance, because of damages to buildings in Groningen in the northern part of the Netherlands due to natural gas extraction).

This overview is important for financing green activities (not only for banks and institutional or private investors, but also for other parties involved, including companies and governments, both nationally and on the international level), as it allows constructing a stranding configuration for deciding whether or not to invest in either climate saving economic activity or to avoid premature stranding of assets, as will be the case with short-sighted and downright non-benevolent investors. Put briefly, climate saving (green) economic activity can lead to irreversible stranded resources assets, such as unburnable carbon, unusable machinery, and obsolete bodies of skills and knowledge. Therefore, these actions are impeded by organizations not wanting their assets to strand. When these actions are prescribed by governmental regulations, whole branches of industry will ask for compensation (see above), or at least, postpone or temporize the implementation of these regulations. Loss of employment, the threat of mass unemployment, and hence, of social upheaval because of the fear of welfare losses and social de-classing of entire masses of people, will turn out to be strong arguments against any climate saving initiative. Here, the political horizon shows relevance to prevent what is sometimes called ‘the Green Paradox’ due to actions to prevent assets and resources to strand, perhaps mitigated by a reverse ‘Green Paradox’ (Van der Ploeg & Razai, 2020). Three examples will illustrate the counterproductive impact of climate saving and other sustainability promoting measures:

- governmental prohibition of extracting oil will in the short run make oil companies pumping up as much oil as possible, leading to price reduction and increasing in demand, hence more global warming when burning this oil as fuel;
- the historic 2023 Ocean Treaty protecting the seas is an important step forward, but may nevertheless lead to intensification of fishing, with possible price reduction and increasing demands, thus on the short run leading to overfishing⁹
- untransparent trade in CO₂ and NO₂ emission rights may simply shift the oxygen and nitrogen issues to other societal areas without solving the issues, showing nothing more than a ‘waterbed effect’.

These examples show the complexity of the business horizon and the intention of players within that horizon (see Sinn, 2008; Baldwin, et al., 2019). The question of course is, how these practices can be dealt with, for instance by means of phasing-out and/or phasing-in strategies (Bos & Gupta, 2019; Sinn, 2008). On the one hand, it would cause serious societal turmoil when climate measures come into force overnight. On the other hand, when the time span for effectuating, for instance the 2023 Ocean Treaty, seems to be rather long (2030), decided through solid democratic negotiations, this may offer non-benevolent opponents ample opportunities for contributing to the ‘Green Paradox’.

The political horizon

The political horizon has, depending on the specific situation of a nation state, a time span of four to six years, perhaps shorter in case of fallen administrations (a situation Italy has a patent on,

⁹ In the very week this Ocean Treaty was made, German television broadcasting the film adaptation of Frank Schätzing's dystopic thriller *Der Schwarm* (2004), translated as *The Swarm. A Novel of the Deep*. about sea-life striking back against mankind.

traditionally). In democratic societies, political parties competing for the favor of their voters will do anything to prevent losing their power, especially when they actually have to deliver bad news (for instance, budget cuts). Loss aversion on behalf of the citizen-customer may have a conservative effect on voting behavior, especially when populist parties (either left-wing or right-wing) promise heaven on earth while ignoring the real problems. From the perspective that political decisions in democratic societies depend, at least for a significant part, on the outcome of elections, the political horizon touches the very essence of democratic societies, in two respects. It ensures legitimized political decisions based on majority decisions, ideally taken by well-informed persons. Yet, the majority can take wrong decisions, for several reasons, as will be discussed below when we consider the internal tension of the consumer-citizen.

What about alternatives? At times, the idea reoccurs that we would be better off with a benevolent dictator taking the right decisions for a bright future in a just world and having the power to implement and realize these ideas, since ordinary people allegedly lack the altruism for inter- and transgenerational solidarity and perhaps have too much freedom to indulge their hedonistic needs (Sinn, 2008; Schätzing, 2021). This would be a real third-order change, but possibly rather for worse than for better. Nevertheless, in many countries there are populist trends towards totalitarian leadership, such as in the US, Brazil, Italy, Poland, Russia, Turkey, and Hungary, to mention some recent examples. However, choosing the option of the good dictator promises not to be a fruitful alternative, for several reasons (see, Schätzing, 2021), even when we consider a good dictator as being not a tyrant, but as an enlightened despot that helps us deeply understand the trouble with extended competencies, and then leads us back in normal democratic relationships:

- many democracies have immanent guarantees against undermining democracy, which means that any effort to do so, is illegitimate;
- trust is important, but once a benevolent dictator is governing, there is no guarantee that this dictator will step back once the danger is over, since power has its addictive aspects, perhaps eventually leading to tyranny;
- there is no guarantee that a benevolent dictator will take the right decisions concerning ultra-wicked problems, while even dictators may fall prey to both ignorance and arrogance; trying to solve the problem based on freedom and democracy will probably not be favored by the dictator (as giving up power is a hard thing to do, even for benevolent dictators);
- furthermore, it is doubtful whether dictators execute what they were promising;
- next, when dictators meet opposition, prisons and re-education centers will be working overtime.

Therefore, taking away political freedom in favor of benevolent dictators is neither legitimate nor effective to save the planet. Instead, we need empowered and assertive citizens, both in parliaments and as leaders of political parties of whatever denomination, to take up climate challenges, because of the many backfire elements of dictatorship (as history has taught us many times).

The technological horizon

The technological horizon is least straightforward, as its time span may vary according to the type of innovation and the type of problem the innovation is meant to solve (as was explained above in terms of the various degrees of the wickedness of problems). At this point, the issue of stranded assets may play an important role, as technological innovation may be hampered by the fear for assets to strand.

The climate horizon has its specific forecasts translated in scenarios with more or less definite deadlines, such as global warming, depletion of natural resources, and extinction of species. The general idea is, that the sooner action is taken, the lesser the costs may turn out to be in the long run.

The key factor in democratic societies in dealing with these horizons is the public in general as a citizen-consumer, as was announced earlier.

6. The horizon of the public in general as citizen and consumer

Climate and other green issues and their consequences can and will be experienced in various ways, depending on geographical location, geopolitical situation, societal positions taken, and reference points chosen. The population of low lying islands in the Pacific or the Indian Ocean, flooded twice a day, are situated in a way that differs substantially from that of the inhabitants of residential areas asked to switch from natural gas to solar energy or other resources of energy, or from people invited to exchange meat dishes for vegetarian food.

Green issues may vary according to their urgency, as can be explained by the issue-contingent model of Jones (1991), in which the actual degree of wickedness may be less a substantial factor and more the way issues are interpreted. Considered from a moral perspective, part of the analysis and conceptualization of green issues is the assessment of their *moral intensity* as a specific feature of what makes these issues more or less wicked. This concept, mainly based on consequentialist ethics, consists of six dimensions:

- (1) the *magnitude of consequences* (aggregate harm done to victims or aggregate benefits accruing to beneficiaries);
- (2) *social consensus* (level of agreement about the goodness or evil of an issue);
- (3) the *probability of effect* (a joint function of the likelihood of occurrence of an act and the expected consequence of the act);
- (4) *temporal immediacy* (the length of time between now and occurrence of effects);
- (5) *proximity* (the degree to which actors can identify with potential victims);
- (6) *concentration of effect* (the degree to which costs apply to only a few people).

When we apply these dimensions to green issues, an remarkable picture emerges, with global warning taken as an example.

The magnitude of consequences of climate change will be great, though not for every spot on earth in the same degree. Consequences can both be *material* (extreme weather, damage because of tornadoes, flooding, heavy rainfall, environmental damages, extinction of species) and *psycho-social* (anxiety, worrying, depression, despair, apathy, indifference, numbness, green activism, intergroup conflicts, heat-related violence, mental health issues, migration), and can be acute, more indirect, or likely in the long run (Doherty & Clayton, 2011; Langford, 2002; Maiteny, 2002; Reser & Swim, 2011; Stokols, et al., 2009). Social consensus may be lower than expected (as in: ‘global warming? nice weather, at last!’), much of which is related to perceived and experiences consequences, as well as interpretation of the news (Hulme, 2009; 2015; Weber & Stern, 2011). There is a high probability of irrevocable effects, with ample and accumulation evidence, yet contested by climate deniers (Monbiot, 2006; Norgaard, 2006). The temporal immediacy is low, as many of the predicted climate changes will occur after decades if not centuries (‘so why bother now?’). The proximity probably will be low. Those

affected by climate changes are mostly not our neighbors (‘people living elsewhere’, ‘whales, never seen one, I won’t miss them anyway’). Finally, the concentration of the effect may range from high to very low, depending on the type of effect (for instance, areas hit by tornadoes, heatwaves, flooding on a regular base, or sea-level rising in the long run).

Taken together, the experienced urgency of green issues may vary, depending on the type of issue, but generally speaking, it will not be very high, leading to the conclusion that responsibilities for taking action may not be everybody’s priority, forcing us to face a new *tragedy of the commons*.

This term, initially coined by Hardin¹⁰ (1968; 1998) refers to the situation in which a commons is a large-scale environmental or social system consisting of natural or cultural resources and ideas, the benefits of which are readily accessible to all and thus prone to misuse, underinvestment, and free riding, with the mantra ‘freedom in a commons brings ruin to all’ (Hardin, 1968; Ostrom, 1990; 1999). During the last three decades, the concept was refined, elaborated, disputed, used in research, whereas adversaries were formulated (see, for instance, Ansari, et al., 2013; Araral, 2014; Brown, et al., 2018; Cole, et al., 2013; Cox, 1985; Cox, et al., 2016; Crowe, 1969; De Young, 1999; 2000; 2011; De Young & Kaplan, 1988; Feeny, et al., 1990; Gardiner, 2001; 2011; 2017; Hardin & Baden, 1977; Kay, 1997; Ostrom, 1990; 1999; 2008; Ostrom, et al., 1994). As not all green issues are about commons (in the way, for instance, plastic soup, acid precipitation, firewood crises, non-adherence to Covid-19 rules, and over-fishing do), we should avoid stretching the concept too far. For our purpose, a useful formulation would be: “facing a serious dilemma – an instance where individual rational behavior (for instance, acting without restraint to maximize personal short-term gain) can cause long-rang harm to the environment, others, and ultimately oneself” (De Young, 1999). In particular, the tragedy of the commons is, in fact, an element in the overarching tragedy of the quintuple horizons.

In general, the public plays an important role in the diverse fashions of the tragedy of the commons, and of course in the tragedy of the quintuple horizons, both as a citizen and as a consumer. In their efforts to promote green finance, banks must deal with the general public in at least three ways. In their role as a citizen, the public in a more indirect way may (not) vote for politicians with a green mind (nationally as well as locally) (the political horizon), whereas in their role as consumers, the general public more directly votes with their feet by (not) buying green products and services and are less inclined to use their voting bills for a good cause. In the case of systems banks, the general public may (not) prefer to invest their money in green banking (indirectly through, for instance, pension funds, and on stock markets) because of the expected low return on investment, as was discussed above.

Because of the this pivotal role of the general public, a closer look is helpful, starting with the distinction between being a citizen and being a customer. Held (2008) distinguishes the differences between choices affecting oneself (customer self-regarding) and choices affecting the preferences and life opportunities of others (citizen other-regarding). However, at second glance, these categories are not as discrete as they may seem. In fact, four categories of consumerism can be distinguished, depending on the type and degree of the citizenship it consists of:

¹⁰ Though coined by Hardin, the ideas behind the tragedy of the commons are not very new, and can be found in the work of Aristotle and Hobbes (De Young, 1999, 601; Feeny, Berkes, McCay & Acheson, 1990; Orr & Hill, 1978; Ostrom, 1990; Ostrom, Gardner & Walker, 1994, chapter 1)).

- (1) *liberal* consumerism: consumers as a market party trying to achieve a better market position for their own short term benefits ('value for money');
- (2) *responsible* consumerism: consumers adopting social responsibility (concerning, for instance, sustainability of products, less waste, recycling of raw material, economic energy consumption, and other external effects of consuming);
- (3) *critical* consumerism: discussing the system of consumption as such, prohibiting obsolete products and services, advocating advanced legislation and regulations;
- (4) *radical* consumerism: taking the perspective of an unjust society against which action has to be taken.

Considered from another perspective, the traditional line-up of a society consisting of several classes as conceptualized by, for instance, Marx and Engels, does not exist anymore in its original fashion. Geiger (1949) posited that Marx's concept of classes has no suprahistorical validity. On the contrary, every society has its stratification consisting of highly diversified groups of people, as any sophisticated marketer can approve. For instance, the values and lifestyles (VALS) framework offer a relatively simple image of eight consumer categories: innovators, thinkers, achievers, experiences, believers, strivers, makers, and survivors. In the US, these adult customer categories are classified according to their levels or resources and one out of three consumption motives: ideals (knowledge and principles), achievement (success demonstrated to others), and self-expression (social or physical activities, variation, risk-taking) (see, Ferrell & Hartline, 2011). (www.strategicbusinessinsights.com/vals/ustypes.shtml).

Another instrument to distinguish types of customers based on their lifestyle, is Mosaic Experian (www.experian.com), based on 34 characteristics arranged into four overarching categories, including life people and skills, living space, style and attitudes, and balancing the books, as figure 5 shows.

The combination of characteristics allows for no more than fifty household types, at least in the Netherlands.

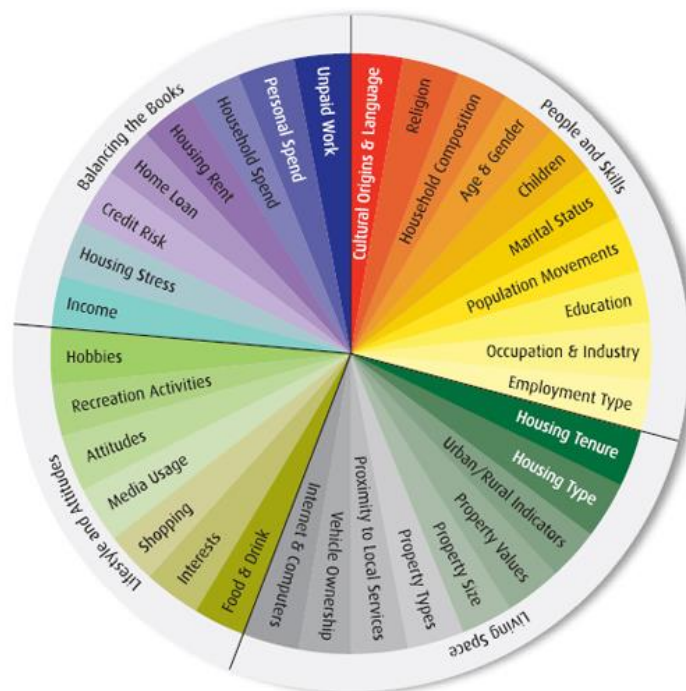


Figure 5. types of customers and their lifestyle.

For any policymaker knowledge of these socio-economic categories, their emotions, intuitions, and the choices they make and the impact it has on the world at large is both indispensable and complicated.

It seems impossible to arrange these categories (in fact, household types with political relevance) under a common denominator. However, an attempt can be made to analyze the position of both consumers and citizens by using Kohlbergs theory of cognitive moral development. According to this theory, moral development consists of three levels and several stages (depending on the version of the theory used) (Kohlberg, et al., 1983). Assumptions of this theory are that stadia are logical rounded wholes of justifications (not contents) of moral decisions, with a fixed order and with no determined end-stage (either six or seven). The theory claims universal validity (both cultural and gender). Development is not obvious or self-evident, but depends on dynamical factors (such as social environment, level of education, opportunities offered and used), implying that development can be both be hampered and encouraged. An important distinction is made between moral *competence* (the notion of what one *should* do) and moral *performance* (the notion of what one *would* do).

Table 3. stages of moral reasoning.

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| <p>I. Pre-conventional level</p> <p>Stage 1: <i>Orientation on punishment</i>, characterized by a limited teleological (consequentialist) structure of moral argumentation, based on balancing pros and cons to avoid negative consequences and specific instrumental virtues (such as perseverance).</p> <p>Stage 2: <i>Orientation on obedience and exchange</i>, characterized by a limited teleological (consequentialist) structure of moral argumentation based on balancing pros and cons, necessarily more complex than in Stage 1, since interests of immediate others are taken into account within limits and based on instrumental virtues (such as self-serving deliberation and negotiation skills).</p> <p>II. Conventional level</p> <p>Stage 3: <i>Orientation on good relations</i> can take many shapes, depending on a variety of contingencies concerning ethical criterion and moral horizon, with the ‘members-only’ thinking and feeling as its core. Because of the possibility of branching, the ethical criterion of moral argumentation can be deontological (local rules-based), teleological (interests- and consequences-based, for instance concerning good relations within the family or group), axiological (group values-based), or aretaic (group virtues-based), indicated as Stage 3D, Stage 3T, Stage 3A, and Stage 3V, respectively. In Stage 3, the type of moral horizon varies with the size and kind of the group (formal groups such as teams, units, and departments), as well as all sorts of informal cliques (each with an own code).</p> <p>Stage 3/4: <i>Company stage</i> is - because of the possibility of branching - characterized by an orientation on the values, virtues, rules, and interests of the <i>organisation</i>. The ethical criterion of moral argumentation can be deontological (organisational rules-based, for instance in a corporate code of behaviour), teleological (based on interests and consequences regarding the organisation), axiological (organisation values-based), or aretaic (organisational virtues-based such as loyalty, respect), specifications indicated as Stage 3/4 D, Stage 3/4 T, Stage 3/4 A, and Stage 3/4 V, respectively.</p> <p>Stage 4: <i>Orientation on law and order</i> refers to the societal system at large, either its social values, its citizenship virtues, its rules (laws, collective labour agreements, professional codes, and otherwise), or its interests and consequences (wealth, social cohesion). Specifications can be indicated as Stage 4 D, Stage 4 T, Stage 4 A, and Stage 4 V, respectively.</p> <p>III. Post-conventional level</p> <p>Stage 5: <i>Social contract orientation</i>, characterized by an integrated principled and rule-utilitarian structure of moral argumentation, in which all major strategies of moral justification (orientation on values, rules, virtues and consequences) merge aiming at criticizing old rules and conventions and formulate new rules and conventions of higher justice quality than before.</p> <p>Stage 6: <i>Universalistic orientation</i>, characterized by an orientation on universal moral principles, a deontological structure of argumentation, in which consequentialist considerations are incorporated, notably the consequences for all those involved actually and potentially.</p> <p>Stage 7: <i>Spiritual cosmic orientation</i>, characterized by a sense of unity of the mind with the whole of nature, unconditional honesty, and a personal vision on life in general.</p> |
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The theory also promotes an evaluative claim (stage N+1 is morally and pragmatically better than stage N) and a developmental claim, that is the moral duty to help others with their moral development and refraining from blocking it. The stages are characterized in Table 3 in the following terms¹¹.

It is tempting to find out how moral reasoning of adult customer-citizens is distributed among the levels and stages of cognitive moral development. For several reasons, this is a rather difficult operation. Many research instruments do not clearly distinguish between moral reasoning *competence* ('what should you do, and why?') and moral *performance* ('what would you do, and why?'). Furthermore, both moral competence and moral performance are affected by the themes involved, instead of general features of individuals. Seldom is the cognitive moral development theory used to address consumer behavior in the way Sargin and Koçer (2021) did.¹²

However, some recent figures with an illustrative function may give an impression of this distribution (see Figure 6). Jean-Tron et al., (2022) compared medical graduates, graduates with other degrees, and nonprofessional adults while using the Kohlberg-based Defining Issues Test (Rest, 1979) (not referring to ecological moral reasoning in particular). When assuming that these figures have some external validity, looking at the high preconventional scores, the results are not very reassuring, though probably helpful in hypothesizing. These figures appear to be hopeful about the impact of (professional) education on moral reasoning¹³.

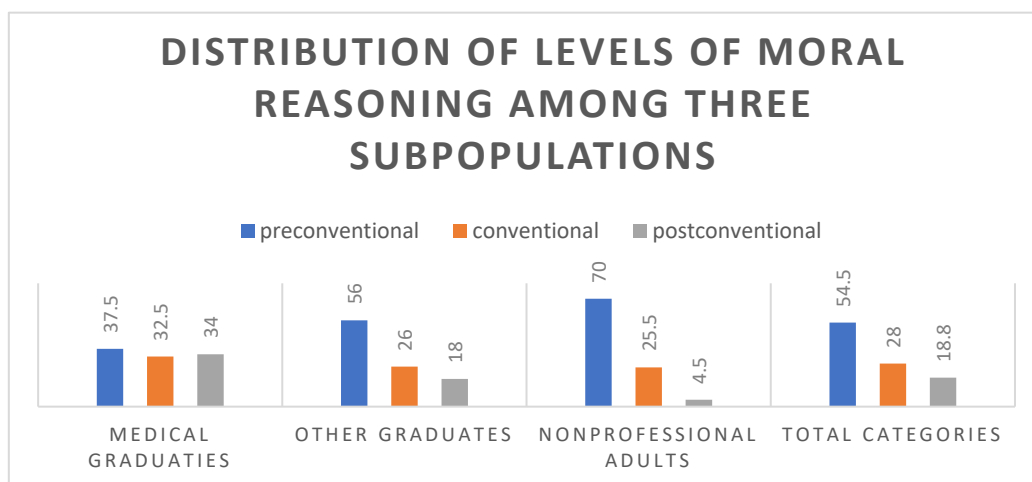


Figure 6. distribution of moral reasoning.

It can now be argued, that customers mostly (in any case, the liberal consumers) show a preference for stage 2 or 3 moral reasoning, whereas critical citizens (including of course, bank employees) cannot exercise their citizenship without being in the level two (conventional) stage 4 moral reasoning (in fact,

¹¹ A detailed critical discussion of Kohlberg's theory can be found in Bennink (2012a), with a defense of an in-between stage 3/4 (228–230) and a plea for maintaining stage 7 (267–273) (Kohlberg & Power, 1981; Kohlberg & Ryncarz, 1990).

¹² Of course, there are plenty of contributions discussing ethical consumer behavior (for instance, Campbell & Winterich, 2018; Papaioikonomou, Ryan & Valverde, 2011; Sunbury-Riley & Kohlbacher, 2016; Thøgerson, 1999).

¹³ From this perspective one could plea for moral education in general and for sustainable development in particular (see, for instance, Asif et al, 2020; Ha-Brookshire et al, 2017).

stage 2 cost-benefit deliberation versus stage 3+ normative concerns).¹⁴ They may badly need a stage 5 competence, if not a stage 6 or even 7 when they wish to build a better world based on global solidarity with contemporary and future generations of people, animals, and flora, because they are worthy of protection prone to the existential risk as we all are, and thus in need of representation (Hellmer, 1959; O'Neill, 2001). It should be kept in mind that solidarity is a relational concept in need of completion: solidarity with whom? Only the next of kin, the inhabitants of the western world (as in 'America first'), or is it more like solidarity with the human kind in general, a concept coined already in the Nineteenth century? (Bourgeois, 1896; Duvignaud, 1986). In fact, this asks for a world ethos (Beck, 2006; Beck & Grande, 2010; Küng, 1998; 2012).

For many people, humanitarian solidarity may involve a third-order change of their state of mind in order to adopt a position that apart from benefits, and the sacrifices should be shared on a just basis (for instance, in terms of the moral musical chairs and the veil of ignorance introduced by Rawls, 1971).

These last notions confront us with four further issues, the first of which concerns the complexity of moral reasoning. The second is about the meaning of the societal perspective, whereas the third is how responsibility for future generations can be thought of, and the fourth concerns what the implications are when substantial parts of the population exhibit no more than a stage 2 performance, not only as customer, but also in executing their citizenship.

- (1) The theory of cognitive moral development is about justifying moral claims, not about their contents. Apart from the distinction between moral competence and moral performance, by implication, customer moral reasoning may depend on the specific issue (for instance, vegetarian food, or going to holiday resorts by airplane), meaning that for one issue (for instance, solar energy) a customer uses a stage 4 argumentation, and for another issue a stage 2 or even stage 1 argumentation (in case of fear for punishment). To make it even more complex, moral argumentation will be dependent on where exactly the customer is situated in the consumption cycle or, in more recent terms, the customer journey (e.g., Lemon & Verhoef, 2016): prepurchase (awareness, orientation, selection), purchase, use and maintenance, and post purchase (repair, dismiss, sell, trading in, circular use). At this point, important research assignments for marketing science can be formulated.
- (2) The exact meaning of stage 4 (and by implication, stage 5, too) depends on the political vision of society concerning issues of the conception of the relation between person and the community and whether the government must be neutral. From several corners, the issue can be dealt with, such as comparing the Anglo-Saxon, the Rhineland, the Nordic, and several Asian models of political-economy and the role of the state and civil society. Another angle of approach is the liberal-communitarian debate. In his reconstruction of the debate(s), De Jong (1998) discusses two central and characteristic differences between liberal and communitarian perspectives:
 - liberals cherish the idea of the neutrality of the state, whereas the idea of perfection of the state is the point of departure for communitarians; according to liberals, the state is not permitted to

¹⁴ It can be argued, that consumer citizenship is a self-contradictory concept (Kallhoff, 2013), that ethical consuming is a myth (Carrigan & Attalla, 2001; Denyse, 2020), or even impossible (Karlsson, 2013). In any case, people in society have multiple roles that ask for conscientious decision-making based on conflicting and emotionally charged decision-making.

enforce a conception of the good life onto its citizens, whereas according to communitarians it is the central task of the state to do so

- liberals emphasize the protection of rights and privileges in front of the state, whereas communitarians emphasize common interests and responsibilities.

Liberals plea for a neutral, non-perfectionist state in which political decisions are independent of specific conceptions of the good life since these are disputed in a pluralistic society and the government should avoid giving opinions about the (un)desirability of these conceptions. On their turn, communitarians think that liberal neutrality is a fiction, and a plea for ‘politics of the common good’ while advocating a perfectionist state propagating a conception of the good life that founds political decisions. According to communitarians, every society and every state (even a liberal state) supposes a conception of the good life. In this way, liberal states also foster a particular conception of the good life and counteract other conceptions. Moreover, considering social cohesion in a society, it is even desirable that a state prescribes a common and substantive conception of the good life to its citizens. In liberal individualism only the individual counts, and individual rights outweigh claims from community, while communitarians criticize this point of view for contributing to the disintegration of society and the uprooting of individuals. Moreover, as they argue, individuals cannot live without communities, since communities are constitutive for the identity of the individual.

Within both liberalism and communitarianism, two central positions can be distinguished. Within the liberal perspective: autonomy-liberalism and diversity-liberalism, within the communitarian perspective, society-communitarianism and community-communitarianism.

- *Autonomy-liberalism* claims that everybody has a right to autonomy. Every individual must be free and be enabled to form, alter, and exercise a conception of the good life in a critical and well-informed manner. The role of the state protects this right to autonomy.
- Point of departure of *diversity-liberalism* is that the state has to respect and protect the diversity of communities and cultures in society. Protecting the right of autonomy may be at odds with the preservation of plurality, based on the idea that autonomy too is a disputed and substantive conception of life that should not be promoted by the state unilaterally. Promoting autonomy is an unjust restriction of diversity.

These forms of liberalism can be labeled ‘liberal’, as they both defend the idea of a neutral state and prioritize rights and privileges in opposite of the state. An important difference is that autonomy-liberals argue that neutrality of the state goes along with the promotion of autonomy, whereas diversity-liberals argue that a liberal state promoting autonomy is not neutral at all because such a state dictates and forbids too much. Instead of giving absolute priority to the protection of the individual right to autonomy – as autonomy-liberals do – diversity-liberals give priority to the protection of the autonomy of communities to warrant diversity in society.

Within the communitarian perspective, society-communitarianism and community-communitarianism can be distinguished:

- *Society-communitarianism* departs from the idea that a commonly shared substantive moral is necessary to keep society together. The state should take care that a common and substantive conception of the good life is transferred to all citizens. Therefore, the state must be perfectionist;
- *Community-communitarianism* argues that in a multiform society there can be no common substantive conception of the good life on the societal level. Only within small communities,

homogeneity and communality can be realized. Moreover, these communities are essential to the development of the individual. Therefore, according to community-communitarians, every community deserves to be respected and continued.

Across the debates of the greening society, these ideological controversies play an important role concerning what can be expected of national and local authorities. The liberalism-communitarianism debate is mainly a discussion between autonomy-liberals on the one hand, and both forms of communitarianism on the other hand. Essential is the emphasis that is laid upon the individual right to choose an own conception of the good life and express oneself freely, even if this conflicts with values and binds of the community or the society one is part of. In this vein, Sandel (1996) contrasts an ethic of fair procedures and individual rights as opposed to ethic of social solidarity and mutual obligation.

(3) The discussion of political ideologies partly answers the question of the limits of responsibility for fellow and future generations (inter- and transgenerational solidarity). During the last decades, the future generations issue (of people, fauna, and flora) is addressed thoroughly. Do future generations have rights, and how and be whom can these be articulated? Do present generations indeed have duties with respect to future generations? What is the meaning of intergenerational justice and how can it be done? (see, for instance, Andina, 2018; 2020a; 2020b; Arrhenius, 2000; 2004; Beyleveld, et al., 2015; Boonin-Vail, 1996; D' Amato, 1990; Davidson, 2008; De Young, 2000; Gheaus, 2016; Gündling, 1990; Jeurissen & Keijzers, 2004; Locke, 1987; Meyer, 2016; Mulgan, 2008; Ng, 1989; Norton, 1982; Parfit, 1982; Partridge, 2001; Reichenbach, 1992; Sikora & Barry, 1978; Thompson, 2010; Tremmel, 2006; Vanderheiden, 2006; Weiss, 1990; 1992). Instead of looking at the issue from a rights approach, the perspective is proposed to consider it in terms of responsibilities for leaving a world to the future without a shortage of resources, without pollution, and with a healthy and viable environment, and without restricting their space for decision-making. Here, we can refer to the capabilities approach of Nussbaum (2004):

- life, bodily health, bodily integrity, use of senses, imagination, and thought
- personal and social identity
- material standard of living (income, consumption, building up assets)
- safety, security, and sustainability
- education and the possibility of earning a living through meaningful labor
- being able to have attachments to things and people outside ourselves
- being able to form conceptions of the good and engage in critical reflection about the planning of one's life
- being able to live with and towards others and engaging in various forms of social interaction as well as having social bases of self-respect, non-humiliation, and non-discrimination
- being able to live with concern for and in relation to animals, plants, and the world of nature
- being able to laugh, play and enjoy recreational activities
- exercising control over one's political and material environment.

In order to direct our thinking, a double distinction concerning responsibility is made. The first distinction concerns *material* and *formal* responsibility. Material responsibility concerns contents, that is, the vast amount of issues we can be or are (held) responsible for, the 'what' of responsibility. Formal responsibility is about the way in which we are responsible, the 'how' of responsibility. Concerning formal responsibility, a second distinction will turn out to be useful in considering future generations

ethics. At this point, we follow Bovens (1990) when expanding the classification of formal responsibilities taken from Hart (1968). It provides us with two formal notions of, responsibility as *accountability* (post hoc) and responsibility as *virtue* (ex ante).

Responsibility as *accountability* is a digital form of responsibility and is always in arrear with strong legal overtones: one is either responsible or not (hence, digital), and then and only then when three criteria are met clearly and irrefutably:

- violation of a norm or infliction of harm (or both, in most cases)
- causal relation between the person held responsible and the damage done (except in cases of vicarious responsibility)
- blameworthiness: the wrongdoer must both be mentally healthy and dispose of alternatives, that is, there should be no reasons for excluding guilt (such as unsound mind, coercion, guiltless ignorance, due misconception, or justified self-defense).

Responsibility as *virtue* is the analogous form of responsibility (that is, in various degrees), is always ex ante and before something has happened or been done. Five criteria are relevant, though not all five have to be met, hence analogous:

- an adequate perception of impending violations of norms or of possible damage
- having a keen eye for consequences of situations and actions
- being autonomous in making and taking decisions and acting accordingly
- a testable and consistent and understandable code, consisting of moral norms, values and rules, and principles
- taking role obligations seriously (as entrepreneur, manager, citizen, local authority, professional, bank).

Concerning future generations, it is easy to take responsibility for fellow and future generations, however, it cannot be enforced. Therefore, it is necessary to enact legislation to make green plans possible and penalize violations, as in the petrification case in medieval towns and international treaties, as the Paris Agreements. The crucial point is that it asks for citizens willing to promote this kind of legislation, involving a necessary turn to communitarian points of view. This brings us to the fourth complicating issue, the mental state of the larger public in democratic societies.

(4) Critics of modern society point at the troublesome mindset of many citizens, at times considered as the unwanted impact of capitalism. People are thought to be less able to engage in commitment within a liquid society (Bauman, 2000), are highly narcissistic (and hence, selfish) (Lasch, 1979), if not one-dimensional (Marcuse, 1964). Who is to blame? Bloom (2008) reproaches American universities for neglecting the notions of truth, logical and critical thinking, and genuine knowledge in favor of basic instinct and moral relativism. This may be true, but there are more features and explanations.

Barber (2007) observed that the modern consumer has the mindset of an infantilized adult (a 'kidult'). Childishness is stimulated and legitimated, impulsiveness is valued above thoughtfulness, egoism, and above non-reciprocal altruism, images above words, individualism above sense of community, narcissism above being social, (consumer) rights above (citizen) duties, immediate satisfaction of needs instead of satisfaction in the long run. The 'kidult' prefers easy above difficult, simplicity over complexity while losing the sense of nuance, and fast above slow catalyzed by digitalization, in short, prefers the hedonistic mindset of the five-year-old. This characterization tempts us to face the uneasy question whether these 'kidults' indeed should have voting rights, just like five

year old children are considered to be not old, wise, and mature enough to be involved in participative citizenship¹⁵. Does this mean that most adults do function at a moral stage of no higher than stage 2 or perhaps 3 of Kohlberg's theory of cognitive moral development, as was described in Table 3?

Kahneman (2011, *passim*) does not refer to the theory of Kohlberg, but instead offers psychophysical explanations for consumer behavior, or, put more accurately, of behavior in general. People have limited cognitive and moral capacities. In fact, humans have both endless needs and limited means, multiple roles and mixed interests, with restricted sympathies and invisible loyalties, as well as rusted routines. Moreover, they suffer from limited awareness, limited rationality, overreliance in what they believe to know, and restricted memory. Instead of being rational, humans are guided by passions and feelings resulting from and accompanying these passions, causing conflicts between the heart and the mind (Haidt, 2001; Overskeid, 2000; Shiv & Fedorikhin, 1999). As consumers, they will be impulsive, impatient, and directed at immediate gratification, and above all, selfish. Their preferences are always based on framed problems, mostly related to superficial everyday life issues put down in routines. In this way, their horizon is determined by the displays of supermarkets, shopping malls, and the countless enticements of websites.

According to (Kahneman, 2011; Tversky & Kahneman, 1991), people are guided by loss aversion and calculating expected utility of decisions of all kind. What is considered as loss depends, to a high degree, on the reference point(s) chosen, reference points meaning expected outcomes of any kind, as well as the level of adaptation (Brickman & Campbell, 1971; Camerer, 2005; Kahneman & Tversky, 1979). It is easy to see that the different consumer groups identified above (in figure 5) will each have their own point(s) of reference: physical, financial, and psychological. It is not only about the specific interests of a consumer group that are at stake, it is also about the psychological identification with the consumer group one actually wishes to belong to. When paying the price of products and services that counter global warming or aim at dealing with other Great Challenges, loss aversion implies also loss of identity, and as consumer group, de-classing. Both objectively and subjectively, one is, so to speak, condemned to belong to another class of consumers, lower in social ranking.

These processes of de-classing are described in depth by Leppert-Fögen (1974), when trying to explain why so many people in Germany (and perhaps also in other countries), were declassified in a fear-arousing and demoralizing way and tried to seek refuge with fascist political movements and parties in the 1930s. Of course, the present political situation differs very much from the period of 1933–1945, but some of the mechanisms may be similar. One of these mechanisms may be that it is not so much the economic downturn (loss of purchasing power), but the social degradation (Lepper-Fögen, 1974); the latter is thought to be a narcissistic affront or even humiliation, when identification with previous reference groups gets out of sight, and new reference groups are not attractive or found confusing.

Another mechanism is the ambivalent relationship with authority. Just as in the 1930s, many people in the present time seem to develop into the direction of the authoritarian personality, as described earlier by, among others, Adorno, et al., (1950) and Fromm (1942). They exhibit an ambivalent relationship with authorities in a populist way. Populism is a recent trend in many countries, as Figure 7 shows.

¹⁵ From another angle and in another vocabulary this issue is addressed in terms of 'organized immaturity', consisting of three patterns: including infantilization, reductionism, and totalization (Scherer & Neesham, 2020).

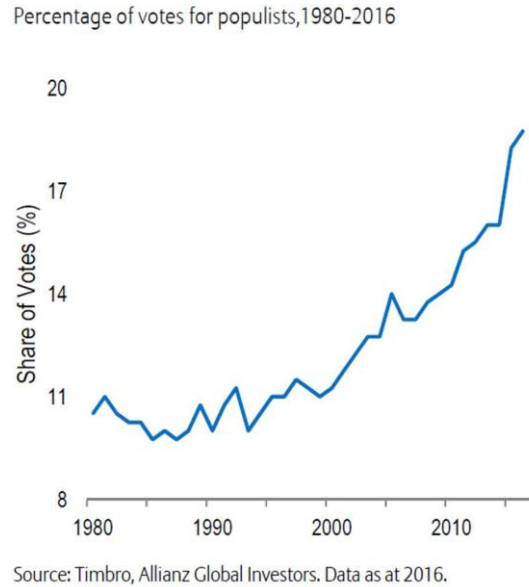


Figure 7. increase of popular voting.

This trend goes along with a decline in trust in national and local authorities, including governments, the press, and professionals, as Figure 8 illustrates. A recent survey in the Netherlands revealed that only about 26% of the sample has faith in the present administration (<https://www.ipsos.com/nl-nl/politieke-barometer>).

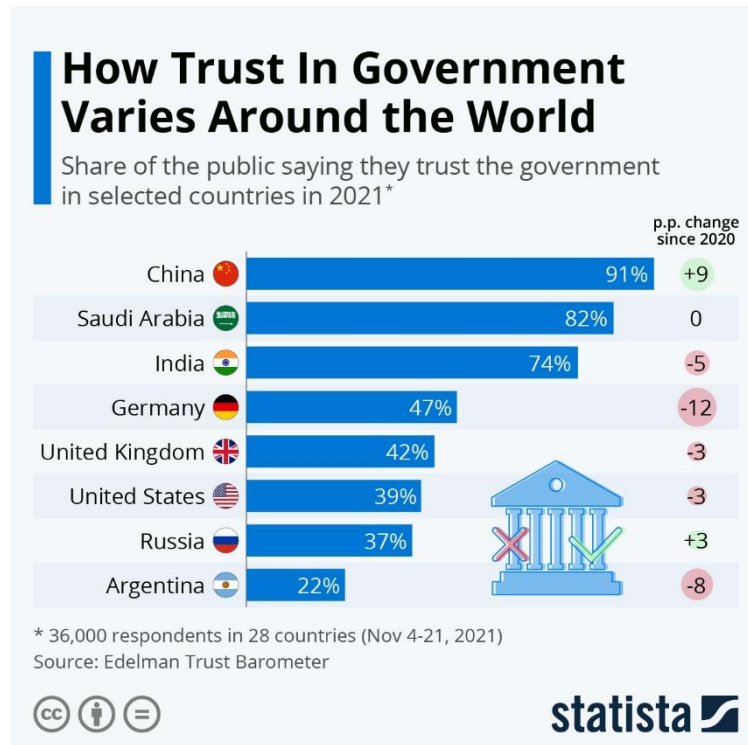


Figure 8. Trust in governments across the world.

Concerning ambivalence, on the one hand, they blame authorities for anything that goes wrong in their lives. On the other hand, they ask authorities for permanent help, thus manifesting themselves

as lazy, complaining persons characterized by ego-weakness, externalizing the superego, and general defenselessness, that is, show both blind submission and unruly rebellion, and are, therefore, perhaps unable to function in society appropriately because of their social ignorance and indifference (Leppert-Fögen, 1984), in fact, to be labelled as ‘kidult’ behavior.

Will they take this mindset to the voting booths in times of elections? Should this bring us to a conclusion that participation in democratic societies asks for entry barriers, as in the ancient Platonic form of democracy (Beetham, 2009)? Or even worse, as if ‘kidults’ seem to ask for some enlightened parent taking care of them while taking their freedom, for instance a natural aristocracy to force society to accept the demands of ecological scarcity (Ophuls, 1977). There may be some appeal in asking for guidance, but does not correspond with the idea of a deliberative society based on the idea of popular control of government, the principle of equality, the quality of argumentation, and the willingness to be persuaded (Beetham, 2009; Dryzek, 2000; 2001; Dukalskis & Gerschewski, 2017; Held, 2008). Especially, paternalistic, or even autocratic governmental measures for making the world greener may be rather counterproductive though appealing for parts of the public, as can be concluded from the brief discussion of benevolent dictators above. Transaction costs may be very high when the public at large reacts with regression, reactance, reluctance, resistance, or even rebellion in case of non-consent and disputed legitimacy (as could be seen with regard to governmental measures to deal with the Covid-19 pandemic or agricultural policy in, for instance, France and the Netherlands) (De Young & Kaplan, 1988). So, this will definitely be a dead-end alley in democratic and many other societies.

A light version of coercive persuasion can be found in persuasive strategies (Cialdini, 2003, concerning recycling) and in nudging strategies as helping people in decision-making (Sunstein, 2014; 2015; Thaler & Sunstein, 2008). Apart from nudging, we can also look out for other solutions, including a special concern for those affected by climate changes and help them avoid psychic states of fear, apathy and indifference that turn them away from taking responsibility, and instead flee into patriarchal, authoritative, or even autocratic conceptions of living together (Doherty & Clayton, 2011; Fromm, 1942; Norgaard & Reed, 2017; Reser & Swim, 2011; Stokols et al., 2009; Swim, et al., 2011).

A serious role is reserved for educational practice, that is, educating people to morally competent world citizen, in the first place by changing their reference point(s) from everyday greed to long term goals put down in green routines, the realization of which is gratifying because of felt responsibility (as virtue) as inter- and transgenerational solidarity (Heat, et al., 1999; Orr, 1992).

7. Outlook on dealing with challenges

After having discussed these four issues concerning the horizon of the public in general as citizen and consumer, we can turn to challenges of green finance, starting with strategies to avert the tragedy of the commons, while attempting to avoid pessimistic visions on the human prospect. One obvious perspective was already pointed at, that of coercive solutions, undermining the very roots of democratic societies (Beetham, 2009; Parkinson, 2003). It would be a third-order change of the wrong kind. Nudging strategies can be used if only of the innocent kind (Häußermann, 2020), perhaps using insights of neurobiology (Martinez, 2012), provided this happens in morally defensible ways.

A first step would be unraveling the complexity of interrelated issues on several levels, the global, international level, the state level, and the lower, local levels, and consider where representative

democracy can be completed with participative forms of democracy (Morison, 2007). Perhaps, local initiatives with small wins and exemplary value should get preference above large scale irreversible experiments, as in muddling through (Barber, 2007; Barber, 2013; De Young & Kaplan, 1988; 2012; Irvine & Kaplan, 2001; Lindblom, 1959; 1979; Parkinson, 2003; Reay, et al., 2006).

In the meantime, the general public wishing to participate in green matters and ways to finance them, in order to make contributions to solve the wicked problems they facing, are in a position lacking proper affordance, not only because of the lack of transparency of the exact qualifications of green products and production processes.

As Dahl (1989) puts it, for a system to function fully deliberative democracy, at least five criteria need to be met:

- (1) effective participation – citizens must have adequate and equal opportunities to form their preferences, to place questions in the public agenda, and to express reasons for affirming one outcome rather than another;
- (2) enlightened understanding – citizens must enjoy ample and equal opportunities for discovering and affirming what choice in a matter before them would best serve their interests (and, perhaps also those of others, HB);
- (3) voting quality at the decisive stage – each citizen must be assured his or her judgement will be counted as equal in weight to the judgements of other citizens at the decisive stage of collective decision-making;
- (4) control of the agenda – the demos must have the opportunity to make decisions as to what matters are and are not to be decided by processes that meet the first three criteria;
- (5) inclusiveness – the provision of the powers of citizenship to all mature persons with a legitimate stake in the polity.

It will be clear, that this ideal is hard to realize in our highly complex and differentiated society, with a network character, especially when considered from a global perspective (Van Dijk, 2020a), whereas participation instead of representation does not imply qualitative valuable contributions to the solution of ultra-wicked problems. Most of all, the idea of impartiality as the core element of higher stages of moral reasoning seems to be in conflict with personal interests and preferences concerning the good life. Many people probably simply cannot afford the luxury of being impartial based on generous solidarity (Gutmann & Thompson, 1996; Held, 2008), especially when the poor are the ones to pay for the climate crisis. This may lead to a democratic tension if not a paradox, with everybody recognizing that radical intervention is necessary (according to the citizen), yet with only minimal interventions having a chance of success (due to the consumer).

From this perspective, one can also expect an asymmetry in information and expertise between participants discussing the financing of green issues (Blok, 2014; Blok & Lemmens, 2015), caused by differences in vision, interest, motives, power, problem definition, directions for solution, political orientation, intellectual background, and readiness to invest in time and money in debates. In participating effectively in discussing these issues, the public in general needs, apart from being *ecologically literate*, both *moral* expertise and *ethical* expertise, and perhaps also, digital expertise (Van Dijk, 2019; 2020b). The term ‘moral’ refers to the practice of values, norms, principles, and virtues that are held in a certain social system (personal, family, organization, type of industry, professional organization, and society), whereas ‘ethics’ is used to indicate the science of morals and

morality. Based on this distinction, moral expertise includes any knowledge concerning a specific green issue, facts, regulations, norms, moral aspects and the argumentations for and against. Moral competence means having the ability to react appropriately in morally relevant situations (Zwart, 2003). Ethical expertise includes knowing your way in strategies for moral decision-making and its vocabulary (such as the meaning of deontology, solidarity, justice, respect, et cetera). The claim of having moral and ethical expertise may appear demanding, even we keep in mind that theories about moral decision-making for the most part are rigorous and scrutinized versions of everyday thinking about moral issues, that is, in terms of moral emotions, values, virtues, rules, and consequences concerning past and future actions. To reflect upon strategies of moral decision-making, a grade in ethics is not compulsory, though an ethics course may of course be helpful. Also, ethical expertise from outside could be hired whenever necessary in order to approach the idea of symmetry in communication about green finance. The least thing one can do, is being able to see changes of all kind, especially with a process character, being able to make a distinction between mere coincidence of events and patterns, be aware of fake news and correct it, beat bad attitudes such as complacency and intellectual laziness (Norgaard, 2006), examining the role of emotions, detect and unmask fallacies in reasoning such as confirmation bias, evaluation bias, sunk costs fallacy, scapegoating, false analogies, superiority bias, premature generalizations, ad hominem arguments (see Bennett, 2012, for the ultimate collection of over 300 logical fallacies) and make moral excuses harmless, such as the tricky thirteen:

- ‘we were just a small gear wheel in a big clockwork’ (the excuse of the *negligibility of the wrong-doing*)
- ‘everybody does it’ (the excuse of the *voice of the majority*)
- ‘if we didn’t it, some else has done it’ (the excuse of the *fixed outcome*)
- ‘without our wrongdoing, it was even worse’ (the excuse of the *lesser evil*)
- ‘we had nothing to do with it’ (the excuse of the *insignificant cause*)
- ‘we did not know’ (the excuse of *ignorance*)
- ‘we did not know that it was not allowed’ (the excuse of *moral ignorance*)
- ‘we did only the way we were instructed’ (the excuse of the *role obligation*)
- ‘it was not our task’ (the excuse of *strategically drawing the limits of competence*)
- ‘we had no choice’ (the excuses of the *necessity*)
- ‘look at others, they are just really bad’ (the excuse of the *worse others*)
- ‘it was to our best intentions’ (the excuses of the *betrayed innocent*)
- ‘our organization does a lot of good things, too’ (the excuse of the *positive balance*)

More fundamentally, moral excuses can be justified by saying ‘it’s human nature, isn’t it?...’. This justification deserves some further attention, as was announced in the earlier in this article. Are banks, by their very nature, conservative? Are people, by their very nature, conservative? Banks are a social construction, made by man, that can, though not easily, be reconstructed¹⁶. The same can be said of human nature: is it a fixed phenomenon, or has mankind both the opportunity and the assignment to develop to a real cosmopolitan species (as was the idea of Kant and many other Enlightenment

¹⁶ As an example, Barber (2007, chapter 1) outlined a part of the history of banking based on the vicissitudes of the banking dynasty of the Fuggers from Augsburg.

philosophers, inspirators of the earlier mentioned Rawls and Kohlberg, see also, De Young, 2011)? Is loss aversion indeed the fundamental disposition of men? Or will it be possible to institutionalize more future oriented reference points?

A systemic view on green financing teaches us that at least five intertwined horizons affect the prospects of green financing: the consumers horizon, the business horizon, the political horizon, the technological horizon, and the global climate horizon.

In order to resolve the tragedy of the five horizons successfully, at least five criteria must be met: vision, interests, plan, means, and competences. Winding up, the prospects for green financing do not seem to look very well, so far. Banks would not finance green projects consumers are not willing to pay for, green projects tend to be untransparent and suspected of possible greenwashing. Especially when considered from a global perspective and an interdependent world of Great Challenges, the ultra-wicked character of these issues becomes obvious. Banks cannot simply move towards other institutional domain based on generalized solidarity and a cosmopolitan mindset, because of inherently conflicting institutional logics, even if they wish to. Necessary is integrated cooperation between all stakeholders involved, perhaps under supervision of central banks (Volz, 2017), while taking care of the seven dimensions of fit mentioned above. Even more necessary is that stakeholders have valid data at their disposal, based on advanced standardized definitions, classifications and statistical methodology. Important too, is the settlement of disclosure requirements for corporations of every size and type of industry (Schmieder, 2022). Careful assessment of actual data can be a first step.

As the big culprit, public at large can be identified, rather being a selfish customer than a vigilant and generous cosmopolitan citizen participating in global civic society practicing solidarity with both fellow and future world residents up and down the world. Nevertheless, there must be no room for deep cynicism, though we should recognize that for many green projects the road to success will be a long one, asking for both courage, perseverance, and patience (De Young, 2011).

Can the public at large apart from being informed, be forced, pushed, persuaded, educated, placed under patriarchal guidance and guardianship? Are third-order changes in the world and in democracy societies in particular necessary or will first-order or second-order changes do?

In the first place, the spaghetti of wicked green issues needs to be unraveled in order to identify smaller issues that become within reach for those involved, can be handled in ways leading to small, if possible accumulative wins ('petrification starting with rooftiles'). For example, retailers can have an important function in distributing green products instead of being directed by non-green producers and non-green consumers, based on the principle of ethical displacement (Aerts, 2013; DeGeorge, 1993), that is, displacing a moral issue to a higher level in order to solve on a collective basis with (in this case) fellow retailing organizations.

Second, governments, locally, nationally, internationally, and globally, should take the lead in creating measures and regulations that afford creating a greener world (mirroring the petrification case), including attacking the poverty problem up and down the world and paying attention to the psychosocial of impact of climate change in particular. When possible, nudging strategies can be used, in a transparent way.

Third, because of the pivotal role of the public at large, a collective change of mind concerning 'the good life' is necessary in order to create and maintain inter- en transgenerational solidarity and avoid populist solutions (including the call for a benevolent dictator. Ecological literacy (Orr, 1992)

is an important component promoted by the media as important players in civic society, while having the duty concerning the prevention and unmasking of fake news and beating the denial industry. Moral education and ethics courses are a necessary though not sufficient condition in providing and developing the moral and ethical competencies the public at large needs to fulfill the duties of civil society (Carcasson & Sprain, 2012).

Fourth, also in collaboration between institutions, the seven dimensions of fit need proper attention in order for green projects to be successful.

In sum, well-considered small projects on the local level should get the benefit of the doubt from banks that stop being conservative, backed by proper legislation and be both an example and learning material for the general public that in the end has to decide on a viable future or drown in the deluge.

Use of AI tools declaration

The authors declare they have not used Artificial Intelligence (AI) tools in the creation of this article.

Conflict of interest

All authors declare no conflicts of interest in this paper.

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